

Iowa CONSERVATIONIST

SEPTEMBER 1985

SPECIAL FORESTRY ISSUE

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Iowa CONSERVATIONIST

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FRONT COVER: *Oak leaves.*
Photo by Ron Johnson.

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THE SAC AND FOX INDIANS of the early 1800's saw no reason to change the tree-covered Iowa hills. The natural world — the streams, prairie and forests — gave them all they needed. The lush plant growth was an accepted part of life and the concept of erosion was inconceivable. The forest provided wood for canoes and fires, game for food, and clear streams for fishing. The Indians lived in harmony with the land, utilizing what was needed, and having little impact upon the woodlands.

Early settlers looked at the woodlands in a different way. To be sure, they appreciated the game and fuelwood, but other needs were soon evident. Clearing for farmland began in some areas as soon as settlers arrived. In other parts of Iowa, a combination of woodland for fuel and lumber, and prairie for cultivation was the rule. The forest supplied wood products, but livestock grazing of forestland began and a pattern of woodland decline was established.

Today's farmer has a different view of woodland and its place in the use of his land. Woodland is not as critical. There are more convenient sources of building materials and the financial return from the sale of wood is not thought to be worth the trouble. On three quarters of the private land, woodland is used for grazing with little thought of the timber growth.

The Iowa forest of 1850 was 6,680,000 acres in area. Today this has been reduced to about 1,500,000 acres and the rate of loss in the past 30 years has been extremely high. Clearing for pasture and cropland is the predominant conversion activity. Grazing by livestock is less evident than direct clearing but no less effective in destroying woodlands.

Forest produced the soil from erosion in pre-settlement days. They have the same potential today, but are not generally viewed as an erosion control "measure." The tendency is toward costly erosion control measures to maintain erodible land in row crop production rather than change the land use. This tendency is understandable since the farm enterprise is not geared to woodland production.

Healthy woodlands provide the best protection to the soil. Organic matter added to the soil creates a sponge-like condition. This "sponge" absorbs rainfall and snow melt before it moves off the land. Runoff from forest land does not carry silt into the streams. Growing timber on the most erodible land protects the productivity of the site, prevents erosion and yields a continuous wood

The Forest Policy Challenge

*By Gene Hertel
State Forester*

crop. Meanwhile, woodlands provide wildlife and recreational benefits for the landowner and the public.

Public policy and general philosophy in Iowa and in the United States is that a landowner may use his land as he wishes. Changes in land use from woodland to pasture or cropland are made based upon the landowners individual needs. Highly erodible land is often used for row crop production in spite of heavy erosion and reduction in long-term productivity. Landowner incentives are the traditional approach to encourage land-use changes or changes to more responsible management. These incentives are offered based upon the public good to be derived by better management on private lands.

Income tax credits, government cost-sharing for conservation practices and reduced property taxes are incentives which encourage an owner to plant trees or manage woodland. On the other hand, cattle and row crop prices and government programs often encourage landowners to reduce woodland acreage. The landowner's option to change land use based upon current conditions results in an unstable woodland base. Timber cropping requires continuous woodland cover. Incentives need long-term terms if they are to be effective in encouraging forestland.

The future holds promise for increasing forest in Iowa. There is public alarm at the recent clearing of trees and concern about the benefits lost. Concern was expressed by a young girl who observed the cutting of a farm grove when she asked her father, "Where will the squirrels live?" and by the 70-year-old who asked, "What can be done to stop the clearing and to plant more trees?" The general concern of citizens, landowners as well as others, has been translated into some policy-shaping actions. In our system, the power to shape policy rests with the public and, in this sense, the public is being heard.

The Iowa Governor and Legislature have provided encouraging laws to stim-

ulate forest and forest management. These are the Fruit Tree and Forest Reservation Law which eliminates property tax on qualifying lands; a recent act providing cost-sharing funds to assist landowners with fencing to protect woodlands; Conservation Commission funding to buy state forestland, to produce low cost nursery stock to encourage planting, and to offer free professional forestry service to landowners; and an Arbor Day Committee appointment by Governor Branstad to continue to emphasize the value of trees and woodlands.

Governmental agency actions are increasingly positive toward forestland. The Conservation Commission adopted a State Forest Resources Plan for Iowa which sets agency direction for forestry and challenges other agencies and organizations to be aware of their own role in forest stewardship. This plan proposes a 3-million acre goal of forestland for the state — twice the current acreage. This is an ambitious goal, but once accomplished, would give maximum protection to over 80 percent of Iowa soils which have limitations for row crop production. County conservation boards are increasingly involved in woodland management and tree planting on both private and public lands. These organizations are also involved in educational efforts to raise public awareness of forestland values.

Several private organizations actively encourage woodland management. The Iowa Wood Industries Association is increasingly concerned about their future source of raw material and are very active on the State Tree Farm Committee. The Tree Farm Program in Iowa now recognizes landowners with 27,000 acres of forest for their excellent management. The Iowa Urban Foresters are active in promoting wise planning for city trees. The Iowa Natural Heritage Foundation, The Nature Conservancy and others are seeking to preserve representative woodland communities. The Department of Public Instruction, Iowa Natural Heritage Foundation and Conservation Commission have developed an environmental education program for schools which creates an appreciation of woodlands.

The concern of the public, elected officials, agencies and organizations is reflected in actions encouraging to the future of Iowa's forests. Through this gradual evolution of a social conscience, we can return our most fragile land to the condition seen by those early Sac and Fox residents of our state.

IOWA'S WOOD USES

By Brian DeVore
Photos by author

Chances are if a poll was taken asking the question "What products is Iowa known for?" the production of various wood products would not rate nearly as high as tons of grain or scenic postcard pictures of covered bridges. But the fact is the Hawkeye state does produce its fair share of wood and wood products ranging from cardboard box material to fine cabinetry. Many people would also be surprised to discover that these products have an excellent reputation outside the boundaries of this state.

However, some Iowans have discovered the state's potential for producing certain wood products. Following are examples of the uses they have found for Iowa timber.

The International Connection

Bill Tracy's involvement in utilizing Iowa's wood resources started when he was helping his father cut posts during the depression and has expanded to the point where he is now helping this state become an international exporter of more than corn and soybeans.

"It seems in this business when you have a bunch of outstanding logs, everyone in the world seems to know it," he says.

As a result, buyers from such countries as Germany, France, Belgium, Italy, Japan and Korea regularly contact Tracy about getting some of Iowa's "outstanding" walnut, white oak and red oak that grows so well on this state's "good black dirt."

The Casey based exporter formerly spent 17 years with a German lumber company, but he now operates his own business with a partner from St. Joseph, Missouri. They deal in both whole logs and cut lumber and ship through a leased yard in Dubuque. Tracy plans on reopening a yard in Stuart this fall to export wood through.

Tracy gets the wood from a 400-mile radius and says he has found the states of Wisconsin, Illinois and Missouri as well as Iowa to be "super good" as far as the quality of lumber they produce. Many times foreign buyers ask for Iowa wood by name, he says. Most countries pur-



Ron Johnson

Bill Tracy

chase the wood for use in fine furniture, cabinetry and paneling.

But if Iowa's wood has an international reputation, it seems to be a secret to many landowners.

"So many farmers made big, big mistakes 30 or so years ago when they started dozing out timberland," Tracy says.

Hobby Sawmill

What started out as a part-time hobby amongst the timbered hills above the Des Moines River has transformed into a profitable and growing full-time business for Gary Buttermore of Boone.

Buttermore started out doing custom sawing for people in the area when his father-in-law gave him a 36-inch, hand-crank feed, circular mill 10 years ago. He went into business on a full-time basis three years ago and now employs three people, producing approximately 200,000 board feet of red oak, basswood, cherry and walnut each year.

Buttermore says he hasn't "ruined a load of lumber yet" but, when he started he knew little about the sawmill business.

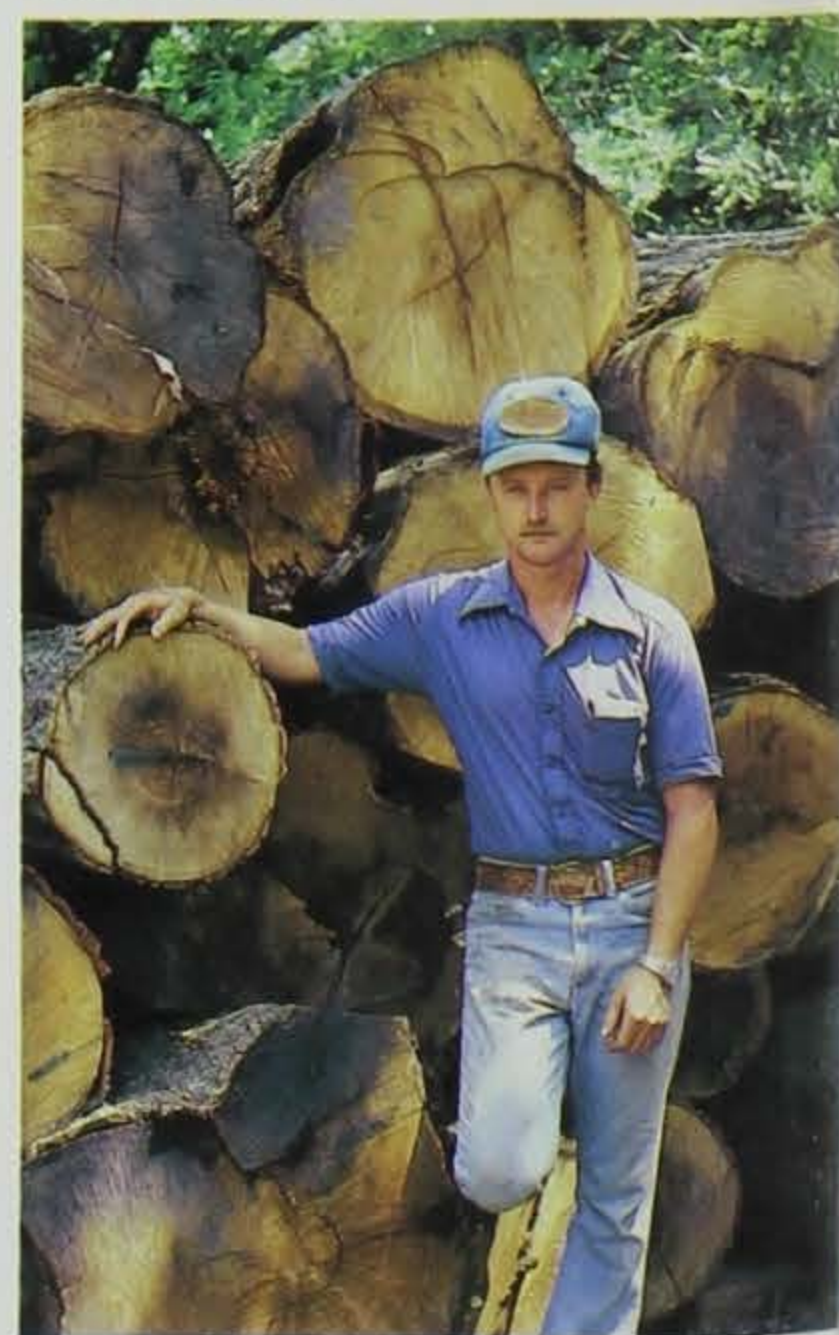
"When I got started, I just read a lot," he says, explaining the only information he had available on running a sawmill was what he could glean from books and an Iowa State University forestry professor. He also had considerable experience in the grading of wood (a very important part of the business) from working in a cabinet shop and from a grading short course.

The operation now serves as a wholesale outlet for cut lumber and 85-90 percent of the lumber sold is basswood and red oak. The majority of Buttermore's market is cabinet shops and factories in central Iowa but he still does some custom sawing and gets quite a bit of "walk-in" business from people looking for small lots of wood.

"We don't care about the size of the order," he says. "We sell anything from a board to a truckload."

Buttermore has made some recent improvements to his operation such as

Gary Buttermore





Bark stripping at Big Timber

adding electricity to the mill and he plans on expanding even further in the near future, he says.

"We just keep adding to it and it keeps getting better."

Big Timber, Big Mill

As far as size and the amount of lumber produced, Gary Buttermore's operation and the Big Timber sawmill in Vinton are about as different as night and day. But there is at least one parallel in that like Buttermore, the owners of Big Timber — Ted and Jeanne Mann and Jim and Jacquie Hodgson — also had very humble beginnings.

It all started when the two couples took a load of cherry, red oak and walnut wood to Montana with them while on vacation. They sold the wood to cabinet shops in that area and found some very receptive buyers.

"My golly, they just couldn't believe the quality of the lumber in Iowa," Ted Mann says.

None of the fledgling operators were experienced in the sawmill business and all they had in the beginning was a hand operated mill built in 1936. "We just started from scratch," Mann says.

They started producing as much as 4000 board feet a day in 1977 and have expanded until now they produce more than 3.5 million board feet a year.

The ancient circular mill has given away to a modern, computer-assisted band saw that is only one of two in the entire state. The mill also has three fairly new kilns that have a combined capacity of 150,000 board feet. Big Timber em-

loys 29 people including two full-time graders.

The wood is purchased from an approximately 100-mile radius in the form of cut logs or standing timber. Eighty percent of the timber they deal with is red oak with soft maple, ash, walnut and cherry also making up a big part of the mill's business.

Mann says most of their lumber is used for making kitchen cabinets, furniture and trim for houses and the majority of it is shipped out of the state to factories. Big Timber also sells its bark for mulch and short pieces of lumber for firewood.

Consolidated Packing's pulp mill



Mann says it takes three to four semiloads of logs a day to keep the sawmill going at full capacity and they generally have a 30-day supply on hand.

Eastern Iowa is a good area to have a large sawmill in because of the availability of logs as well as the quality of the timber such as red oak, he says.

"If you were to compare the red oak in Iowa with Appalachia red oak there is no difference," Mann says. "It grows on some of the best soil around."

Pulp Story

When Consolidated Packaging Corporation of Fort Madison started using

Continued from page 5

timber to make cardboard box material in 1956, people predicted it would exhaust the supply of trees in the area within 10 years. However, almost 30 years later that has not proven to be the case and Consolidated, which is the only wood-using pulp mill in the state, continues to be one of the biggest users of timber in the area.

The mill presently uses more than 110,000 tons of wood per year to produce 65,000 tons of paper. They use all species of hardwood trees except osage orange which is too hard. Oak, cottonwood and soft maple are the staples of the mill.

The actual making of wood into pulp is a process of several steps but it simply amounts to adding moisture and chemicals and squeezing them out again.

The first step is to run the whole logs through a chipper. Approximately 70 percent of the wood comes to the mill already chipped so this process is not always necessary.

The chips are screened to remove the oversized particles and then treated with a mixture of chemicals called a "liquor" to break down the lignins in the wood so the fibers can be separated. A press is then used to squeeze the chemicals out of the pulp that has been formed.

The pulp is then run out on a wide screen at high speed to a thickness of 9/1000's of an inch. From there the newly formed paper sheet travels through a series of large heated rollers. After the pulp is reduced to a moisture content of seven percent, it is then ready to be shipped off in big rolls to box factories where it is corrugated for use in cardboard boxes.

Bob Hass, wood procurement manager for Consolidated, says the mill has been hurt by the bad economy and is handicapped some by the fact that much of the equipment used in the mill dates from the time when straw was used to make paper at the factory in the 1920s.

Despite its problems, Consolidated still remains competitive in the business mainly because there are not any other mills like it in the area and because many of the box factories they ship to are close by, Hass says.

The mill employs approximately 140 people and runs seven days a week. Hass estimated the mill spends more than \$2-million a year on the purchase of wood within the area.

"It gives you an idea of the impact we have," he says. "I'd say there's a pretty substantial ripple effect in this area."

Burning Waste

One man's waste is the same man's heat. At least that is what they've found at Tasler Pallet and Lumber Inc. in Webster City since they installed a waste wood burner five years ago.

"I'd certainly hate to see us without it," says Dale Hammlit, plant manager at Tasler. "It saves considerably and gets rid of the stuff too."

The mill uses mostly low quality lumber to build pallets and other containers for shipping purposes. Hammlitt says they try to produce as little waste as possible when assembling the containers but there are some scraps produced. Since the waste is available and since energy costs are high at an operation like Tasler, the owners decided to use the extra wood to heat the building.

As a result, they installed a box furnace with a forced air system. The

furnace which consists of a fire box with a brick lining, is rated at 1.5-million BTUs but Hammlitt says since Tasler only burns dry wood in it the actual energy production they get out of it could be almost twice as much.

Hammlitt says it takes little maintenance to keep the furnace running. It goes through approximately 4 cubic yards of material a day and the fuel is not treated in any way before being thrown into the furnace. The heater is stoked several times a day when temperatures dip below freezing and a natural gas system takes over at night when the fire burns out. Once a month, a 55 gallon barrel full of ashes and nails is emptied from the furnace.

The results have been encouraging, Hammlitt says. When the furnace is operating it heats almost half of the 16,560 square foot facility and it is thermometrically controlled so there is even heating throughout the building.

Although the system was fairly expensive to install, Hammlitt says it is beginning to pay for itself.

"I'm sure it saves us quite a bit of money because number one, you have to get rid of the wood scraps anyway."

Craftsmanship By Greene

A combination of a degree in industrial education from Iowa State University and inspiration from teachers and other woodworkers got Bruce Greene of tiny Randall started in an occupation that is as much art as plain hard work. Greene makes fine furniture on a custom basis and estimates there are less than 15 people like him in the entire state.

He specializes in reproducing furnishings from certain periods such as Chippendale (Queen Anne), Victorian and French and also does pieces from ideas his clients give him. Greene has built approximately 500 pieces of fine furniture since 1977 but he is not in the business of mass production or assembly line furniture making. His is a job of meticulously choosing, cutting and fitting together top quality wood.

If the piece is to be an original and not an exact copy of another piece, Greene's first step is to draw up a set of plans that are based not only on the client's ideas but on ideas gotten from other pieces pictured in books. If the piece is to be a period copy only, the woodworker works from pictures of the original.

Once the plans have been approved by the customer, Greene carefully hand picks the wood from small sawmills in



**Dale Hammlit (left)
Bruce Greene (right)**

the area, looking for such qualities as good grain pattern, good color and stock as absent of knots and other blemishes as possible.

Because of the importance of getting high quality wood for high quality furniture, Greene says he prefers to get his stock from the smaller Iowa mills.

"The smaller mills...their reputation and quality is a lot more important to them," he says adding that another reason he deals with the small Iowa sawmills is "I really believe in supporting our state economy in any way shape or form."

The average amount of time Greene spends on a piece is one month although he did once spend two years on a copy of a clock that is in the Boston Museum of Art. Greene, who also does furniture repairs, says he prefers to work on only one piece from start to finish and does not work on more than two at a time.

Prices for Greene's work range from \$500 to \$7,000 and his customers come from throughout Iowa and occasionally from outside the state. The results of his patient labors have been displayed at Living History Farms and various home shows.

Greene, who started in the furniture making business in 1977, estimates he has made 500 pieces altogether and says he was inspired by three Ames area men: Wink Van Winkel, his junior high shop teacher; Philip Elrod, a professional cabinet maker and photographer and Denis Feichtinger, Greene's former business partner. He says he also owes a lot to Stan Swenson, a local machine and welding shop owner who often custom builds machines for Greene's special projects.

Despite the time, expense and tedious effort involved in making fine furniture, Greene enjoys a special type of satisfaction from his work.

"Handmade period reproduction versus factory reproduction...there's a big difference in quality."

Carvings by Moats

What does a person do when she has a degree in wildlife biology and comes from a family of artists? She becomes one of the top waterfowl carvers in the country of course.

And that's what Barb Moats of Estherville has done in less than five years. Moats was inspired by her husband Bob, a conservation officer in that area, who has done some carving himself and who serves as her number one critic.

The first thing Moats "recreated" was a "small little duck of no particular species" made of walnut. "I don't bring that out to show people," she jokes.

Now, 108 pieces and a couple of carving championships later, Moats is quite willing to display her carvings. People are also willing to purchase them at prices ranging from \$700 for a small songbird, up to in the thousands of dollars for larger, more complicated pieces.

She works on the pieces for up to several months and the process involves a combination of many tedious steps. Moats begins with a chunk of basswood she obtains from a sawmill in Royale. She explains that northern carvers almost exclusively use basswood because of its many good carving qualities which include a good grain structure and a density that allows it to be easily worked with.



Barb Moats

After she has selected the wood she needs, Moats draws a pattern on the piece using live mounts, museum mounts, and photographs of the subject to go by. She then cuts the pattern out on a bandsaw to get a rough outline and starts carving. She uses a combination of old and new technology when carving and such diverse instruments as wood chisels, mallets, dental tools and power tools. The pieces are finished off with glass eyes and acrylic paints.

Moats never entered a carving competition until she was sure she could win and now with a couple of high finishes in international class competitions under her belt, she has her goals set on a world championship.

Moats says she has learned most of her carving techniques through trial and error and from watching other professionals. The carver adds that with each piece she completes she is a little prouder of what she has accomplished.

"Usually the last piece I ever do is my favorite," Moats says.

Brian DeVore is from Ames and has written outdoor articles for *Fur-Fish-Game*, *The Trapper*, *Iowa Agriculturist* and the *Iowa State Daily*.



"WE'RE NOT LIKE JOHN DEERE where we crank out a tractor every 35 minutes. We plant, we sow the seeds, we really have to do a little praying and hope that in fact in the spring of the year germination will occur."

That is how Jerry Grebasch, Iowa Conservation Commission Reforestation Forester at the State Forest Nursery in Ames, describes the challenge he faces in providing some 3.5 million shrub and tree seedlings to Iowans each year.

For more than 40 years, the nursery has been working with people who are interested for one reason or another in bringing back at least a remnant of the more than 7 million acres of timber that covered this state as late as the mid-1800's. Through the years, the nursery has turned out to be a very necessary

source of seedlings in the state as an intense concentration on row crop agriculture has reduced the forested lands in Iowa to about 1.5 million acres.

During this time there have been many changes in not only the nursery facilities, but the philosophy behind the running of the nursery and even the motives that drive people to plant.

Perhaps the most visible changes over the years have been in the nursery facility itself. Today it is one of the most modern facilities of its kind in the United States; but like the mighty walnut tree that starts out as forgotten squirrel food, the nursery had very humble beginnings.

The first buildings on the 100-acre nursery site south of Ames were built in the 1930's by the Civilian Conservation Corps. The CCC rented land around the site and grew mostly black locust trees to

be planted on erosion-prone soils by CCC workers throughout the state.

"They just threw a pump or a hose into what was then the river, pumped water out onto some areas and established a nursery bed," Grebasch says.

In the early 1940's the CCC disbanded and the nursery was turned over to the commission which then started using the site as a source of seedlings for plantings on private and public lands.

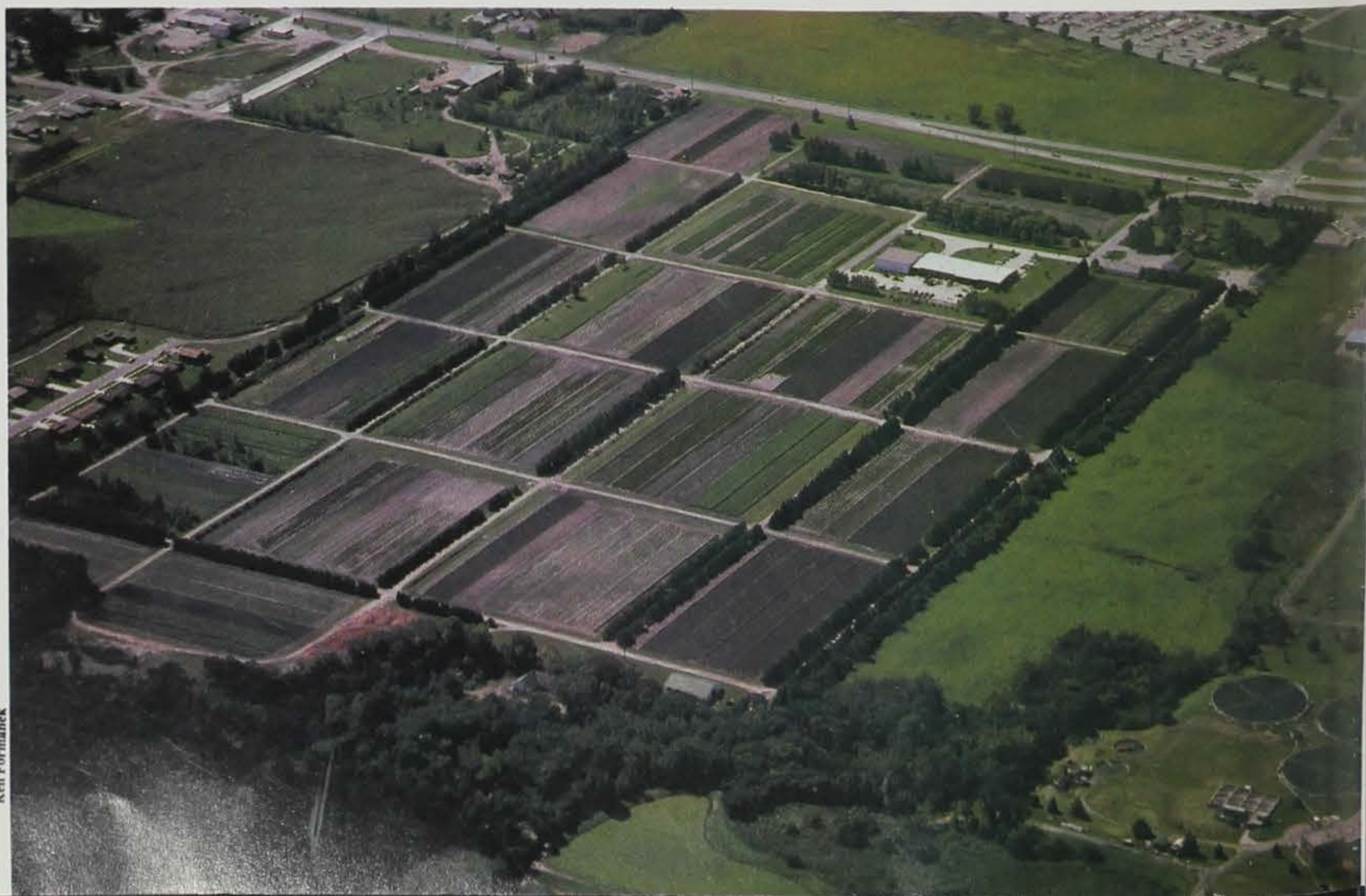
In those days the main office of the nursery was in an old CCC building that is now used as a tool shed.

At that time, all planting, packing and harvesting of seedlings was done by hand. By the early 1960's the nursery was producing about one million seedlings a year.

Later on the nursery added such improvements as pipeline irrigation and

The Nursery's Contribution

By Brian DeVore



Ken Formanek

mechanization throughout the planting, harvesting and packing process. But the biggest improvements have been made recently with a \$750,000 storage, packing and research facility built in 1975 and computers being introduced to help keep tabulations on plantings, seedling orders and plots.

Finally, a 50-acre "satellite nursery" was rented near Ft. Madison in 1982 through an agreement with the Department of Corrections, thus allowing the commission to increase its seedling production potential.

According to Grebasch, although physical changes in the nursery are important, there have also been some slight philosophical changes in the running of the nursery facility.

"The original policy of the nursery was to provide stock for state lands and then if anything was surplus they could be sold to the private sector," he says. "Well, the state lands were fairly well managed and the realization occurred that we have to encourage the private landowners to plant."

Since more than 90 percent of the land in Iowa is privately owned, "the realization was that if there was going to be anything done for long-term conservation-type planting, it was going to be done in the private sector," Grebasch adds.

As a result, the commission sells seedlings through the nursery to private landowners at discounts of up to two to three times less than what they would pay on the commercial market. The nursery continues to sell seedlings only for "conservation" plantings and not for ornamental or windbreak purposes.

Only landowners can order seedlings from the nursery and a minimum of 500 must be ordered at one time. The nursery starts taking orders for seedlings in November and the majority are sold out by the middle of March.

Foresters and wildlife biologists have developed special seedling "packages" that contain a combination of different species that help landowners attract wildlife onto their property.

The nursery presently produces approximately 1.2 million conifer, 300,000 shrub, and 1 million hardwood seedlings a year. Grebasch says the conifer species such as pine have always been popular but the nursery has recently been trying to encourage increased planting of hardwood species such as walnut and oak, which are considered more native to Iowa.

Grebasch justifies the state's role in selling seedlings to the public at discounts by pointing out that the benefits derived from tree planting are enjoyed by everyone, not just by those who do the planting, thus society should help bare some of the cost.

But no matter what the economic incentive is, people will not plant and take care of trees unless they have some other motives. Grebasch says he has seen a change through the years in the reasons some people seem to have for ordering seedlings from the nursery.

"I think that what I've seen personally over this period of time is a much more diverse group of buyers," he says.

In the early years, most of the people who ordered seedlings for plantings were older and had "pretty much decided that 'yes, I'm not going to burn up the world, I'm not going to become president, I want to do something for this plot of land,'" Grebasch says.

But now he says he sees a "really mixed bag" of people who are showing interest in planting large numbers of trees. Some of them are interested in planting trees on their land as a type of investment that will increase the value of the property for generations to come. Then there are those that Grebasch calls the "pure hobbyist" who are "not content to just plant three trees in 'a back yard.'"

Grebasch says another major group of tree planters are those who are starting up in the Christmas tree growing business or are interested in using or selling wood as an alternative source of fuel. There are also those who just want to improve an existing stand of timber that has been damaged by grazing.

Finally, there are the landowners who are planting trees for the pure aesthetics of it.

"They are someone who likes to go up to Minnesota, or northern Wisconsin and they see the beauty of the pines and they say 'I would just like to have a little bit of that down here in Iowa,'" he says.

Grebasch says this increased diversity of tree planters in Iowa bodes good for the future of timber resources in the state.

"I guess I feel very good about that simply because it says to me that young people and society are becoming more aware about (our trees) and they're doing something about it," he says. "They're just not talking about it."

Despite the advances made in both the way seedlings are produced and the

attitudes people have towards planting trees, there are still many challenges to be met at the nursery. Two major goals of the nursery are to produce six million seedlings a year and increase the amount of timbered land in Iowa to three million acres.

But Grebasch says there are many uncertainties and difficulties in raising and establishing trees in Iowa that must be dealt with before these goals can be attained.

"There's an old story that you can take a red pine in Minnesota, throw it out a car window and the crazy thing will grow," he says. "Here in Iowa you really have to work on the whole picture both in the nursery and in the field to successfully grow a tree. In other words, it is not enough to just produce a seedling, a seedling must be produced that can survive out in the field and get established."

Sometimes a seed plot is tied up for almost three years while the seedlings of some species are getting started. During that time, a lot can go wrong and even after the seedlings are transplanted, there is no guarantee genetic disorders won't show up in the future.

"If agriculture is in the 20th Century, we're just kicking at the door of the 20th Century in terms of development," Grebasch says, pointing out that the forest industry does not have such things as hybrid strains to help ensure success in planting.

"We don't have the luxury of, say, the farmer who, if hit by hail or some other catastrophe, can come back and reseed," he says. "If the red cedar doesn't come up, that's it, we can't do anything with it."

"So in many ways it really shows your limitations. You only have so much impact and then you have to step back and be able to accept what happens."

Grebasch says there will have to be continued changes in the attitudes of some landowners before the nursery's goal of getting more highly erodible land put into trees is attained.

As a result of the present farm-debt crisis, farmers are increasingly plowing up land that shouldn't be farmed, he says. In places like Africa where drought and hunger are common, people learned too late that some of the land was not suited for intense cropping but instead was better left in timber or pasture, according to Grebasch.

"I'd like to think we here in Iowa are smarter in that we'll see the wisdom of alternate uses of land before we may not have any alternatives."

Farm Forestry

Free Service Results in Better Management,
More Profit for Landowners

By Roger Sparks

Every woodland owner in Iowa should be aware of the many services offered by the Iowa Conservation Commission's district foresters. Located in twelve offices around the state, foresters provide convenient access to landowners who might just discover that smart timber management can result in cold cash in the pocket.

While district foresters are dedicated to sound woodland management, they are not high-pressure evangelists or modern-day Johnny Appleseeds. They are forestry experts armed with eye-opening facts about tax breaks, cost-sharing programs, timber markets, erosion control methods, and many other subjects related to saving and earning money with a timber crop. The following examples show how foresters might do their jobs.

Woodland Management

Let's say the owner of a piece of timber has received an offer to buy from a neighbor. While the offer seems attractive, she is uncertain what the land is actually worth. She has questions about the value of the mature trees. She also wonders if she should consider clearing at least part of it for row crops, making the land more valuable. She seeks free answers from her district forester who not only provides information she seeks to help her make intelligent decisions, but also outlines alternatives she had not considered. The forester runs a management analysis of her timber and then lays out a plan, calling for immediate marketing through several potential buyers, thinning and pruning for top continued production and regeneration of trees for a sustained yield in the future. From the forester she learns she can profit today and tomorrow and chooses to do so.

Another landowner recognizes a problem with erosion on a steep hillside pasture. His open bottomland segment provides good forage, but the once-timbered ridge adjacent to it is starting to wash. Between the few remaining large oaks, grass is giving way to gullies. He wants to protect what is left and wonders if it is too late to let the land revert to timber. He calls the forester.

District foresters provide answers on location.

Again, the forester explains alternatives and recommends, in this case, harvesting the large oaks, fencing out cattle and replanting the hillside. He emphasizes tax advantages and explains why good timber management and grazing to not mix.

Marketing

Some maturing walnut trees in a grove near the owner's house attract a buyer. He offers the owner a fair price for some of the larger trees, but she declines to sell until she has consulted her district forester.

The forester identifies several marketable trees and advises against premature cutting of many others, noting that the value would likely triple with five years' additional growth. He confirms that the offer is a fair one, but identifies other potential buyers in the area for comparison as well as alternate markets for future consideration.

Planting

This landowner has some river-bottom timber and cropland. One small field is surrounded by timber and is impossible to reach with equipment during high-water periods. A corner of another field is so sandy, row-crop production is very low. He wonders if trees could provide a profitable crop on these areas.

The district forester suggests a walnut plantation on the isolated site for a retirement investment, and a white pine plantation on the sandy soil for Christmas tree harvest in a few years. He advises the owner about cost-sharing programs and the availability of low-cost stock through the state forest nursery. He promises information at a later date on planting details, seedling spacing requirements and weed control techniques.

These aren't the only types of services foresters provide to landowners. District foresters often serve as consultants for forestry projects to municipalities, county conservation boards and other government agencies. They are knowledgeable about tree diseases, control of insects that may harm trees, and the potential for fire damage and ways to prevent it. Although it is not their primary function, they often work with wood industries and timber buyers in connecting them with appropriate timber owners. They also line up industry representatives with the state's utilization forester who helps solve their marketing and manufacturing problems.

For those who need good, solid advice about forest management, the district foresters are the source. See page 12 for a list of district forester addresses and phone numbers.



Ron Johnson



Larry Wilson, right, director of the Conservation Commission, receives the 15,000th "commemorative" turkey shipping container from James Kennamer, research director of the National Wild Turkey Federation. The Federation has been successful in obtaining donations from paper companies all over the country to provide states like Iowa with shipping containers used to transplant wild-trapped turkeys into new areas. The 14,999th container was distributed for use in the last trapping season.

FOREST CRAFT FESTIVAL OCT. 12-13

The fifth annual Forest Craft Festival will be Oct. 12-13 at Lacey-Keosauqua State Park located in Van Buren County.

The popular two-day event is sponsored by the Iowa Conservation Commission and the people of Van Buren County. More than 8,000 people are expected to attend this year's festival, located on Iowa Highway 1 just south of Keosauqua.

The festival is designed to show the public the many values of a forest and offers visual displays of its many useful products. There is no charge for admission and free bus transportation will be provided from downtown Keosauqua.

The event will include a variety of woodcraft demon-

strations with products for sale. Visitors will see how much lumber a tree represents, have the opportunity to try their skill with a crosscut or buck saw, or watch the operation of a sawmill. They can learn how to improve wildlife habitat through proper forest management. They can also find out how a woodland can be managed to provide a cash crop and enjoyment for visitors while not disturbing the ecological balance.

For more information contact Forestry Section Iowa Conservation Commission, Wallace State Office Building, Des Moines, Iowa 50319-0034, or call 515/281-5629.

National Hunting and Fishing Day September 28, 1985

Check with local conservation groups for activities.

Western State Forest Proposed

In an attempt to better manage developing timber resources in the loess hills area, the Iowa Conservation Commission is proposing a state forest in Monona and Harrison Counties.

The Loess Hills Pioneer State Forest will require the acquisition of 17,190 acres of land over a period of many years from willing sellers. The forest will be comprised of four units within an area approximately seven by fourteen miles.

The area will be managed to achieve multiple benefits. Forest manipulation, with the goal of learning and demonstrating the best means of managing this relatively new woodland resource, will be the dominant activity. Other resource values of the site will be recognized and managed in concert with the woodland activities. These values include those associated with wildlife, prairie, unique biology, geology, history and culture. An evaluation of each acre and site within the state forest will be made and a governing or dominant use allocation as-

signed. In this way, no one use or value will be overlooked, and the overall goal of forest management will not prevent recognition of a more beneficial use of specific sites.

As in other state forests, the loess hills site will provide for substantial outdoor recreational opportunities including hunting, hiking, camping and nature study activities.

All landowners within the proposed boundaries have been contacted by commission personnel to explain the project and to assure them they will not be pressured or forced to sell their land.

A preliminary management plan will be prepared for the area and public meetings will be held to provide landowners and other interested citizens the opportunity to review and comment on management strategies.

This is a large, involved project and any questions about the proposed state forest should be directed towards the commission's forestry section, Wallace Building, Des Moines, Iowa 50309-0034; (515) 281-5629.

1985 FORT ATKINSON RENDEZVOUS SEPT. 28-29

Demonstrations of frontier crafts, cooking and lifestyles will again bring the partially restored Fort Atkinson State Preserve back to life during the 9th annual Fort Atkinson Rendezvous, Sept. 28-29. The event is sponsored by the Iowa Conservation Commission, the Iowa Preserves Board and the community of Fort Atkinson.

Fort Atkinson, located 14 miles southwest of Decorah on Iowa Highway 24, has been the site of the rendezvous for the past nine years, delighting thousands with its

recreation of 1840's frontier life. Tomahawk throwing contests, black powder shooting demonstrations, cannon firing by an 1840 military unit, and demonstrations of period crafts such as birch bark canoe construction, wood carving and weaving are just some of the activities scheduled for this year's rendezvous. A new activity at this year's rendezvous will be a special "anvil shoot."

The Fort Atkinson Rendezvous is a living Iowa history lesson and a lot of fun, too. Admission is free.



DUCK HUTNERS TO USE STEEL SHOT THIS FALL

Early season waterfowl hunters are reminded by the Iowa Conservation Commission that steel shot will be required this fall. The use of shotshells containing anything but steel or soft iron shot is prohibited within 150 yards of lakes, marshes, oxbows, bayous, seasonally flooded areas and rivers in the state for hunting migratory birds with the exception of woodcock.

Exempted areas are farm ponds under two acres, streams less than 25 feet wide, temporary sheet water, and dry land, provided they are not within 150 yards of a steel shot area.

The steel shot requirement is an effort to reduce the lead poisoning of ducks and geese. Waterfowl pick up the toxic lead shot while feeding in Iowa waters.

DONATIONS

Anonymous	13 light poles valued at \$195 for park construction at Black Hawk State Park	Anonymous	One bushel seed corn valued at \$50 for vegetation management at Gull Point State Park
Midwest Industries, Inc. Ida Grove	3,000 lbs. pipe valued at \$600 for playground equipment construction at Black Hawk State Park	Nishna Valley Lumber Shenandoah	Posts valued at \$65 for playground equipment construction at Waubesa State Park
Tjaden Oil Company Lake View	10 tires valued at \$50 for playground equipment construction at Black Hawk State Park	Clear Lake Development Foundation Clear Lake	Two security lights plus installation valued at \$600 for multi-purpose trail at Clear Lake State Park
Pleasant Creek Field Trial Advisory Council Cedar Rapids	Rock valued at \$500 for field trial area at Pleasant Creek Recreation Area	Ed's Bait and Tackle Ankeny	Rod and reel valued at \$82.98 for state fair booth prize

IOWA DISTRICT FORESTERS, ADDRESSES AND PHONE NUMBERS.

District 1 — 319-245-1891, Box 662, Elkader - 52043
 District 2 — 515-228-6611, Box 4, Charles City - 50616
 District 3 — 515-752-3352, Box 681, Marshalltown - 50158
 District 4 — 319-462-2768, Box 46, Anamosa - 52205
 District 5 — 319-523-8319, Box 62, Wapello - 52653
 District 6 — 515-472-2370, Box 568, Fairfield - 52556
 District 7 — 515-774-4918, Route 3, Chariton - 50049
 District 8 — 515-993-4133, Box 175, Adel - 50003
 District 9 — 712-623-4252, Box 152, Red Oak - 51566
 District 10 — 712-546-5161, Box 65, LeMars - 51031
 District 11 — 515-782-6761, Box 2, Creston - 50801
 District 12 — 515-332-2761, 102 8th Street South, Humboldt 50548

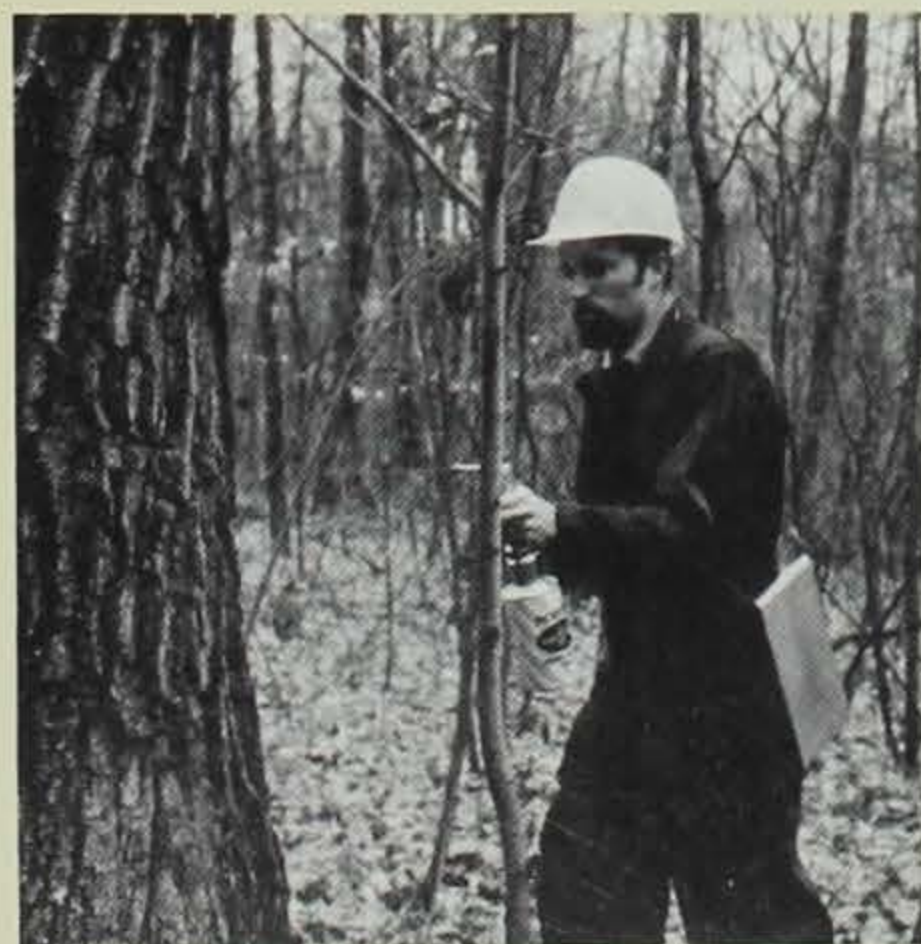
Wilson Chosen as Outstanding Officer

Warren Wilson, an Iowa Conservation Commission officer from Boone, has been chosen as the outstanding law enforcement agent of the year by the Iowa Division of The Izaak Walton League of America. He was named outstanding officer at the league's state convention held in Waterloo during June.

Wilson, who has twice served as president of the Iowa Conservation Officers Association, joined the commission in 1946. He is a native of Eagle Grove where he graduated from high school and attended junior college before serving in the U.S. Marine Corps during World War II.

The Ikes' outstanding officer last year was Darrell Batterson, a warden from Laurel who has been with the commission since 1974.

CONSERVATION Winners & Losers



A forest managed for a continuous crop of wood products can, at the same time, protect the soil, yield clean water to our streams, protect wildlife and add pleasure to our lives. Toward this end, a forester marks a mature tree for harvest.

Bulldozing destroys the protective woodland.



Loess Hills Special Issue Reprinted

The Iowa Conservation Commission and the State Preserves Advisory Board have reprinted the popular Loess Hills issue of the *Iowa Conservationist*. This issue, first published in April 1984, focuses on the special landscapes, geology, fossil mammals, plants and animals, archaeology and history of this western Iowa region. Interest in the loess hills is high among educators, natural historians, conservation organizations and private citizens. This richly illustrated issue is a valuable resource for anyone interested in learning more about this unique Iowa resource. To obtain a free copy, write the Iowa Conservation Commission, Wallace Building, Des Moines, Iowa 50319-0034.

1985 Conservationist Photo Contest

The Iowa Conservationist proudly announces its third annual photo contest.

This year, F Stop Camera and Supply Inc. of Des Moines, Iowa City and Davenport, along with Cosina Lenses will donate a Cosina zoom lens (\$175 suggested retail) as a grand prize award. Therefore judges will be choosing a Best of Show award from the entrants.

The rules are printed below. Once again there will be both color and black and white divisions in the following categories:

1. Wildlife (all nondomestic animals native to Iowa).
2. Humans and Our Resources (recreation and outdoor activities).
3. Scenic Beauty (natural settings and scenic views from within Iowa).
4. Power of Nature (weather-related, ice scenes, storms, snow, etc.).

RULES OF ENTRY

Please read the following rules carefully.

1. To enter, submit a 35mm color slide or black and white photograph (not larger than 8" x 10") for any or all official categories. Color prints and negatives will not be accepted.
2. Print your name, address, and zip code on the entry form below or on a plain piece of paper. Indicate the category and where the picture was taken on entry form with a separate form for each entry. Tape entry form to back of photo or attach transparency to entry form. Also, all slides must be labeled with name and address directly on the slide mount. Please protect entries by use of cardboard backing in mailing envelope.
3. Each contestant may submit one entry for each category. All entries must be received by November 29, 1985.
4. All entries must be hitherto unpublished original photographs and will be judged on the basis of originality, relevance to category, composition and photographic technique.
5. Unless a return is requested by the contestant, all entries become the property of the Iowa Conservation Commission. All rights, including the right to edit, crop, publish and use any photo without further consideration of payment to the contestant will be afford the commission. In the event photos received in the contest are used in future publications by the Iowa Conservation Commission, the photographer will be credited.
6. The contest is open to all U.S. residents, except employees of the Iowa Conservation Commission and their families with the understanding that all entries will have been taken within the boundaries of the State of Iowa.
7. By the act of entry, each contestant warrants that his or her photographs were taken by his or herself and that the contestant has full rights to the photographs and that none have previously won an award or competition.
8. Judging will take place in December, with all winners published in the February 1986 issue of the Iowa Conservationist.



ENTRY BLANK Iowa Conservationist Photo Contest

Name _____

Address _____

City _____ State _____ Zip _____

Category _____

Where Taken _____

Black & White ☐ or Color ☐

☐ I want my entry returned.

I hereby agree to the conditions of the rules of entry.

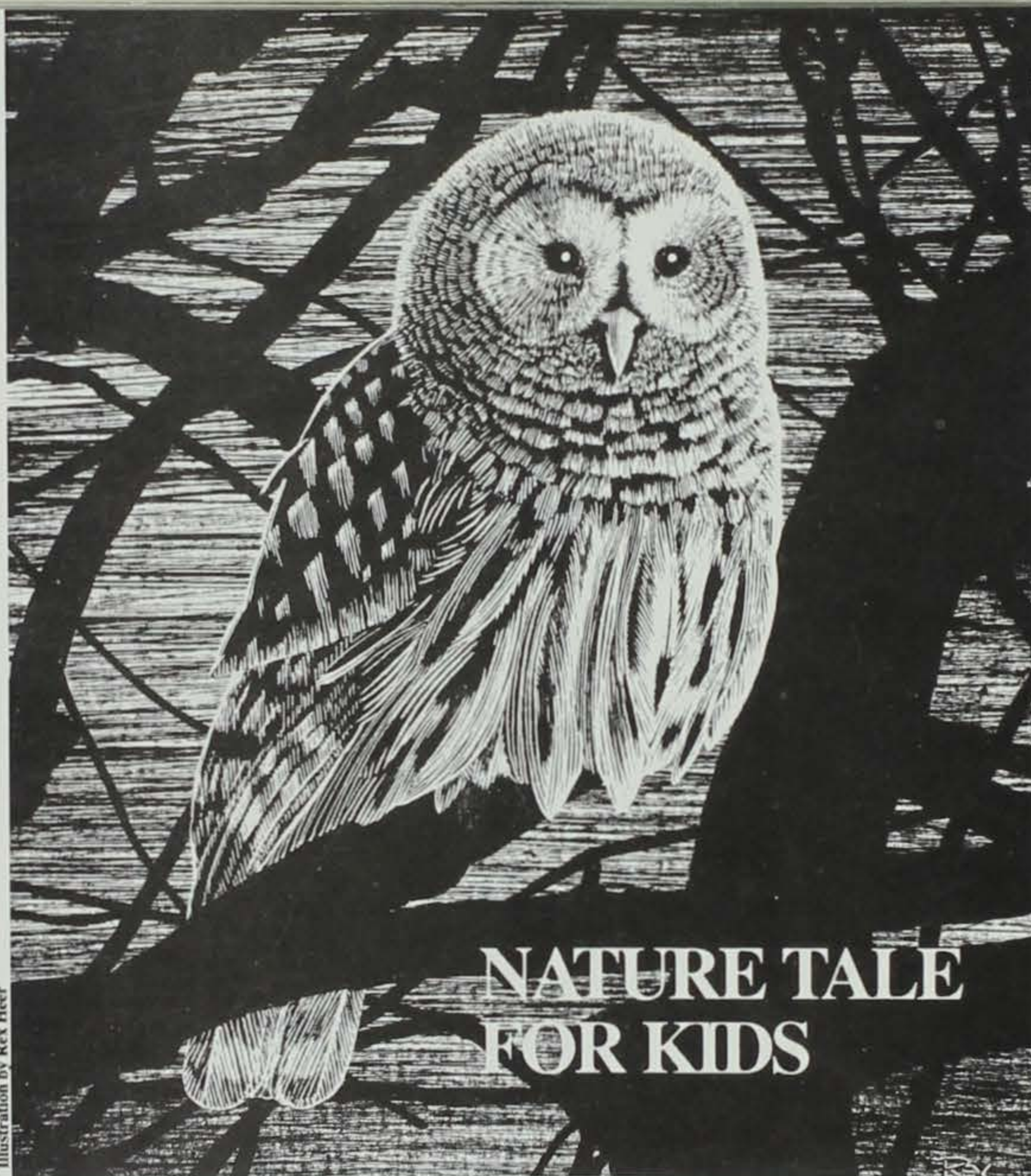
Signature _____

(Please include a copy of this form with each entry.)

All entries must be mailed to:

Iowa Conservation Commission Photo Contest
Wallace State Office Building
Des Moines, Iowa 50319-0034





NATURE TALE FOR KIDS

STRIXIE, THE RELUCTANT BARRED OWL

By Dean Roosa

One of Iowa's most common, and certainly the most vocal owl is the barred owl, known to scientists as *Strix varia*. Its booming "whooh whooh whooh whooh...whooh whooh whooh whooh" is familiar to anyone who has camped near deep woodlands like many of Iowa's beautiful state parks. It is a large owl, over 20 inches long with a four-foot wingspan and dark brown eyes.

Though common, finding its nest is a real challenge. They normally nest in cavities of old trees in the interior of floodplain woods. High in cavities in an ancient soft maple tree near the Maquoketa River in eastern Iowa is where our story begins...

Patches of snow could be seen in protected spots on the undulating landscape in Jones County. The female barred owl had selected a cavity so she could peer out by stretching her neck over the rim of the cavity. She could thus see the river valley where she hatched two years previously. This was her first nest attempt, but she was a devoted prospective parent, tending the eggs and protecting the nest with incomparable

enthusiasm. The Maquoketa River is a wonderful little stream, rock-strewn, gurgling, scenic and best known by bass fishermen, mink, an occasional wandering river otter, and barred owls. Early April came to the river valley, bringing new leaves, bursting wild flowers, migrating song birds, waterfowl, and a serenity known only to woodlands. The owls patiently incubated, waiting for the biggest event of their year.

A sudden late-season snowstorm, seemingly so destructive, blanketed the land, covering the new flowers, weighting down branches of trees. The owls, whose species had a thousand millenia of experience with spring weather, hunkered down and patiently waited for skies to clear. Three days later their world had returned to normal and peace returned to the Maquoketa River valley.

The peaceful existence was shattered one morning by a faint "peep" "peep" from within the egg. This sound triggered instinctive changes in the parent's behavior. The male doubled his hunting efforts, the female became even more solicitous. Three tiny balls of down were

soon to be found in the cavity of the ancient soft maple.

In the following weeks, the tiny down-covered owlets became three nest-crowding, voracious, full-time boarders. Soon they no longer needed the warmth of the female, who was now content to perch on the rim of the cavity or on a nearby limb, ever watchful for danger to her three beloved offspring. Two of the young were soon on the wing, flying about the river valley, clumsily practicing their hunting on anything that moved. The third, Strixie, fully as big as the others, seemed reluctant to leave the safety of her nest. The parents, the most loyal owls in history, kept returning to the nest in response to Strixie's hunger calls. They soon tired of this and began to bring food to a nearby limb and call to Strixie. Faced with the choice of going hungry or venturing from the nest, Strixie eventually launched into the air and landed with a crash next to her mother. She grabbed the ground squirrel, and, to her parent's dismay, flew right back to the nest. This was repeated for a week, each time the parents calling from farther away and finally, Strixie didn't fly back to the nest, but ate her supper out on a limb of a big cottonwood.

Strixie was reluctant to do other things — she heard her two brothers hooting along the river for six weeks. Then one night, without really thinking, she let out her first hoot that ranks among the worst on record. It even startled her parents! Young barred owls are known to make the most awful ruckus when learning their calls, but this was nearly unbearable. Her voice improved remarkably in late summer, but not before causing comments from the nearby landowners like, "heard that wildcat again last night" and "sounded like a woman being strangled down by the river last night!"

Strixie also was reluctant to hunt on her own. She followed her parents around, begging for food. They usually gave in and fed her, but in late August, they completely ignored her, hiding when she was near. After two days, Strixie was driven by hunger to attempt to capture the first thing she saw. Unfortunately, it was a woodchuck. Strixie was roughed up in the process and got a broken tail feather, but learned a valuable lesson. She caught a young mouse with no trouble and now life began in earnest.

She wandered down the river valley to a big floodplain where she was immediately driven away by a pair of big, unsympathetic barred owls. Food was scarce, and in desperation, she tried to capture a family's pet rabbit. This nearly

got her shot, and once again, she headed down the valley. Things were looking grim because the territories in the woods were already taken by other owls, her parents weren't close to help, and she was hungry. She found a beautiful low-land woods, complete with huge old trees and plenty of small mammals and birds for hunting. Then, suddenly the bulldozer and chainsaws moved in, and she had to vacate and move farther down the valley. As with most youngsters of a species, she had to settle for marginal habitat — a small woodland just outside a small river town.

The townsfolk became fond of Strixie and would listen for her impressive whoo whoo whoo whoo...who whoo whoo whoo whooah, each night. She and her mate selected as a nest a cavity in an ancient elm that had long since succumbed to Dutch Elm disease, and they fledged four youngsters in May. One of these, far from reluctant, caused quite a stir when he flew into town the day he left the nest cavity. There he sat in the middle of the main street and a dozen amused townsfolk gathered around. Strixie was panic-stricken, flying about the heads of the spectators, clacking her beak and making unearthly sounds. A picture of this unlikely scene made the local newspaper.

Fortunately, a young biology teacher in the crowd carefully gathered up the young owl and moved it back to the woodland where he had a welcome reunion with Strixie and her mate, plus a stern reprimand. It didn't do much good, for two days later the errant youngster was sitting atop the church back in town, much to Strixie's dismay. This wasn't how barred owls were supposed to act. They were supposed to be a little...well...reluctant. Strixie and her broods entertained the people in the small river town for three years. Fourteen young barred owls got their start in life in the small woods by the small town, on the Maquoketa River.

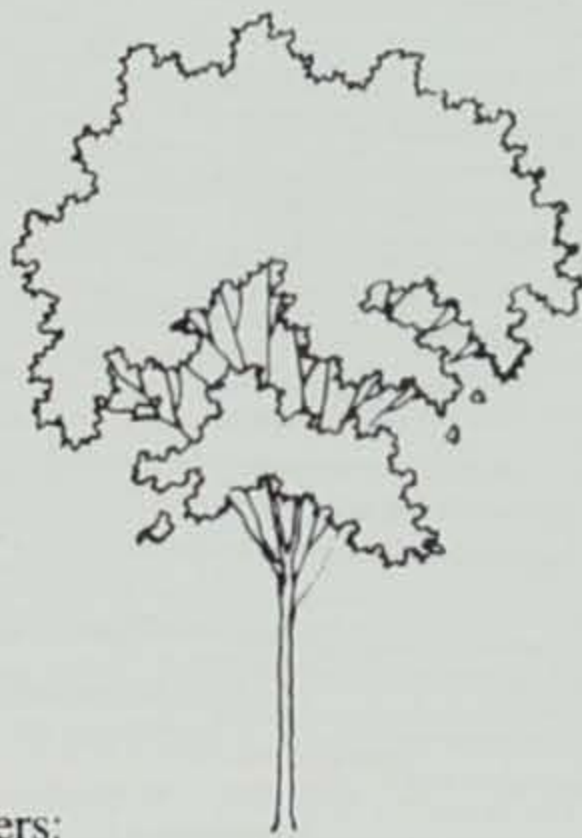
Just this past week the young biology teacher, driving out of town in his old stationwagon, spotted an object on the side of the blacktop. Stopping, he found Strixie, the victim of a speeding car. The next day's paper had a short article on the passing of the town's favorite owl.

That night, people sitting on their porches in the small town remarked on how quiet it seemed. Then, two nights later, one of Strixie's youngsters let loose with a powerful hoot. Off key and discordant, it caused the residents to laugh, but they knew that all was well again along the Maquoketa River.

Classroom Corner

By Robert Rye

Iowa trees come in a variety of shapes and are used for a number of purposes. Some provide homes for specific animals, others serve as food, all help hold Iowa's valuable soil. Trees are always of interest to viewers, walkers and dreamers.



Answers:

1. white pine 2. red pine 3. red cedar 4. red cedar 5. soft 6. box elder 7. wild cherry 8. bur oak 9. willows 10. hackberry

QUIZ

1. Name a conifer (cone bearing) tree that has 5 needles (2½-5 inches long).
2. Name a conifer which has 2 needles (5-6 inches long) in clusters.
3. Name a conifer whose cone has a dark blue "berry".
4. Name a conifer where the males and females are separate trees.
5. The lumber industry regards the conifers as (hard or soft) woods?
6. Name the member of the maple family which has compound leaves.
7. Name a broad-leaf tree that has dark, reddish bark when young, simple leaves and black edible fruit.
8. Name the tree which has been selected as the Iowa state tree and provides food for deer, squirrels and turkeys.
9. Name the group of trees that are often found near rivers, serve as food for beavers and have long narrow leaves.
10. Name a large tree that produces dark purple berries, has singular stems and warty appearing bark, and serves for food and shelter for wildlife.

Fall 1985 Environmental Education Courses

This fall, the UNI Institute for Environmental Education, through its Iowa Environmental Education Field Station Program, will offer a series of weekend courses for graduate credit. All courses will be offered at the Conservation Education Center in Springbrook State Park near Guthrie Center, Iowa. The courses are designed to meet the needs of teachers and naturalists.

Pre-registration is required for all courses. Final registration and dormitory assignment takes place Friday evening from 6:30 p.m. to 7:30 p.m. Each pre-registration requires a \$25.00 non-refundable deposit. All courses are limited to 30 students.

Special Events

Fall ICEC workshop — October 4-6
Winter Solstice — January 17-19

For specific information about each of these courses and events call the Conservation Education Center (515) 747-8383 or UNI (800) 772-1746 (toll free) or (319) 273-2122.

Fall Courses 1985

September 20-22

Camping Activities for the School
Camping Program
82:133g - 1 credit hour
Ellen Bruckner - instructor

October 18-20

Mysteries of the Forest Floor
82:233 - 1 credit hour
Lois Tiffany - instructor

November 15-17

Pioneer Winter Activities
82:186g - 1 credit hour
Gail George - instructor

December 6-8

The Winter Sky
82:286 - 1 credit hour
Darrell Hoff - instructor

Costs

Tuition	\$63.00
Audit	\$63.00
Meals	\$20.00
Rooms	\$4.00 (no charge for tuition participants)
Total	\$83.00 (\$87.00 for audit)

Taxes and Timber

By Bill Farris
Assistant State Forester

Iowa's forestlands provide a wide variety of benefits to its citizens. Woodland owners receive millions of dollars annually from the harvest of their timber crop. Forestlands protect the soil from erosion, provide wildlife habitat, a pleasant environment for recreational activities and add to the aesthetic beauty of our state by providing diversity to the landscape.

Our society recognized a long time ago the importance of woodlands to everyone. To encourage good stewardship and recognize the long term investment needed to grow a crop of trees, tax incentives were enacted at both the federal and state level. Timber capital-gain laws were written to encourage people to hold land and care for it over the long haul. Many states, including Iowa, also followed with property tax treatments for farmers and forest landowners to recognize the long-term investments necessary to grow the timber crop.

Tax Savings on Timber Sales

Many landowners fail to take advantage of capital gain provisions when timber is cut or sold to reduce their taxes. It is far less expensive, even if you are in a low tax bracket, to pay tax on a long-term capital gain than to pay on ordinary income.

Two questions will come up when you report proceeds from the sale of timber or other forest products on your federal income tax return. The first will relate to the amount of gain or loss; the second to the type of gain or loss.

In determining the amount, you must consider your cost in the timber. This is your depletion basis. Depletion, in its simplest form, is your original purchase price of the timber with adjustments for any later capital additions or deductions. Where all the timber is sold, all of the cost of such timber can be taken as depletion. Where only a portion is sold, depletion must be prorated between the cost and the amount sold. The total depletion taken can never exceed your cost or other basis.

If you buy timber, the basis is ordinarily its cost. Special rules apply to property acquired by gift or inheritance. If you acquired property under one of these

conditions, you should know these special rules. They are also important in estate planning.

The second question, the type of gain or loss, depends on whether it is an ordinary gain or loss or a capital gain or loss. These are reported differently on your tax return.

Some things that might affect the treatment of a sale as related to capital gains are: the purpose for which the timber was held; the length of time the timber was owned before disposal; the form of disposal; the frequency and amount of sales; and any other facts which indicate that sales or transactions were in furtherance of an occupation of the seller.

Timberland owners should understand the methods of handling sales and the conditions under which these methods apply. For further information on determining your tax liability from the sale of timber, obtain the publication "A Guide to Federal Income Tax for Timber Owners," Agriculture Handbook Number 596, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

Iowa's Forest Reserve Law

As mentioned earlier Iowa has in place legislation which exempts from property taxation forestland that meets certain criteria. These criteria are:

1. The forested area must be at least two continuous acres in size. If any buildings are on an area selected for a forest reservation, at least one acre will be excluded from the exemption.
2. The forest reservation shall contain at least two hundred growing trees on each acre. The ash, black cherry, black walnut, butternut, catalpa, coffee tree, the elms, hackberry, the hickories, honeylocust, Norway and Carolina poplars, mulberry, the oaks, sugar maple, cottonwood, soft maple, osage orange, basswood, black locust, European larch, and other coniferous trees, and all other forest trees introduced into the state for experimental purposes, shall be considered as forest trees.

3. No cattle, horses, mules, sheep, goats or hogs are permitted on a forest reservation. It is the landowners responsibility to ensure that livestock are not allowed on the reservation.
4. The forest reservation cannot be used for economic gain other than the gain from the raising of forest trees. The sale of forest products is permitted and includes, but is not limited to, fruit, nuts, Christmas trees and greens, posts, poles, logs, fuelwood, pulpwood and tree sap.
5. Not more than one-fifth of the total number of trees in the forest reservation may be removed in any one year, except in cases where the trees die naturally. Where the number of trees in the forest reservation falls below 200 trees per acre as a result of harvesting or natural mortality, the owner shall within one year restore the number of trees to 200 per acre.

Application for a forest reservation must be made with the County Assessor's office prior to April 15 of the year for which the landowner is claiming exemption. The county conservation board or in some cases assessor, shall inspect the area to determine whether or not the property qualifies. Once accepted as a forest reservation, the area shall continue to receive tax exemption without the owner having to refile as long as the area is maintained as a forest reservation. The tax exempt status is transferred with the property if the property is transferred or sold, as long as it qualifies as a forest reservation.

If the area is not maintained or it is used for economic gain other than a forest reservation for any of the exemption years and any of the five years following those exemption years, the assessor shall assess the property for taxation at its fair market value as of January 1 of that year. In addition, the area shall be subject to a recapture tax for those years, up to five preceeding years, for which the area received tax exempt status. The area is not subject to the recapture tax if the owner and the owner's direct antecedents or descendants have owned the area for more than ten years.

Additional information on timber reservation can be obtained from your local county conservation board, assessor or the district forester for your area. You, like other woodland owners, can reduce your taxes, both property and income, through the proper use of existing tax incentives.



The Forests of Iowa

By Benjamin F. Graham and David Glenn-Lewin

The following is an excerpt from Iowa's Natural Heritage, a beautifully illustrated, hard-bound book published by the Iowa Natural Heritage Foundation, 505 Fifth Ave., Suite 830, Des Moines, Iowa 50309.

The wonderful reminiscences of such early Iowa naturalists as T. H. MacBride provides windows through which we can look back and see Iowa's forests and prairies as they used to be. In the following passages from an 1895 newspaper (reprinted in *The Palimpsest*, published by the State Historical Society, 1926), MacBride describes things as he recalled them from his youth some 60 years earlier.

"The primeval woods were confined to two very dissimilar locations; to ridges of clay, sand, or rock and to flood plains of streams, flats more or less wide, subject to overflow. All the richest most fertile areas of the state were prairie...not infrequently the streams were found shaded with only a fringe of their characteristic species while groves of forest trees covered isolated hilltops far away."

"The primeval forests in these diverse localities were very different in character. The species were different. Down by the streams the wild plum, wild cherry, box-elder, soft maple and elm made, with the grape and Virginia creeper, thickets almost or wholly impassable, with shade so dense that the ground beneath was absolutely bare. Where by the junction of two streams the flood plain was widened with richer alluvial soil, walnuts, hackberries and cottonwoods with an occasional bur-oak, gave to the woodland more of the appearance of an eastern forest, and here and there on rocky banks were groves of hard maple rivalling those of Pennsylvania and Vermont. But on the clay ridges the white oak flourished sometimes to the exclusion of all else; while the most striking peculiarity of the Iowa upland forest was its openness. One could drive through it anywhere. To one following some long clay ridge the trees opened on every hand as in a royal park, and out past their clear white weathered boles on a summer day the emerald prairie gleamed and shone to the horizon's edge."

Kinds of Iowa Forests

To identify general forest vegetation, the most common and perhaps the most convenient method is to use the dominant woody species as the key character — sometimes supplementing this with some conspicuous habitat characteristic. Upland forests, for example, are those occupying a position above the reach of standing water or floods. There is, of course, a substantial range of slope positions even within this definition of upland forests. Also recognizable are clear differences in vegetation occupying flood plains. The general differences between upland and flood plain forests are so striking, however, that this broad distinction will serve our purposes. These differences may include such things as the species present, the structure and appearance of the vegetation, the type of soil, growth and reproduction habits of the trees, the plants comprising the ground layer, and even the animals present.

Throughout most of Iowa, upper slopes, ridges, and hilltops are the sites for forests dominated by white oak and shagbark hickory, along with other associated species. Lower down, in moist protected areas, the white oak forest gives way to a woodland in which red oak, sugar maple and basswood predominate (although their relative proportions vary from one site to another). In general, the amount of maple increases toward the north and east.

As with all forests, the transition from one type to another is subtle and not sharply defined. In many places, as you walk up a slope from a protected ravine, it is impossible to tell exactly where the change takes place from red oak/maple/basswood to the white oak/hickory forest on the hilltop. Each species, with its individual behavior and distribution, sometimes produces confusing patterns of vegetation. Basswood, for example, may abandon the low slopes and protected areas and — as in the Ledges State Park in Boone County — grow on hilltops and flat uplands along with white oak. Some hardy, less common species — such as the chinkapin oak and the red cedar — seem to have met the challenge of survival through their ability to cling to cracks and crevices of rocky bluffs above the rivers in northeast Iowa. Both of these species prefer alkaline soils or a limestone substrate. Red cedar glades are often found on overgrazed pastures and abandoned fields.

Along rivers and streams, where high water may flood the forest at least occasionally, the kind of woodland is quite different from the upland forest. Although the trees are deciduous (similar to the upland species), the structure of the forest and its species composition are almost entirely different.

Species distribution in the lowland forest depends in part upon the intensity and frequency of flooding. Sand bars and shores that are accumulating new soil are often covered with a young and vigorous growth of willow or cotton-

wood saplings. It is not uncommon for these species to be so dense, and their branches so tough and pliable, that they are virtually impenetrable. These common lowland species actually require beds of bar mineral soil for their seeds to germinate. They rarely prosper where they have to contend with sod or a deep humus layer on the soil's surface.

Being sensitive to minor differences in the drainage characteristics of the soil, trees of the flood plain often exhibit marked variations in growth rate that are obviously related to their distance from the stream channel. During flooding, swifter water near the channel lifts and transports larger mineral particles, frequently depositing them in marginal ridges parallel to the stream's banks. Shallower floodwaters which spread out across the flood plain are less energetic; their flow slows more and more as they get farther away from the channel. One result of this diminishing energy pattern is the finer aluvial soils of the flood plain. Away from the main channel, large trees may grow without being uprooted by the force of the current in flooding. More important, on the flood plain, trees have to contend with periodic lack of oxygen for their roots. Tolerance to flooding is probably the most important factor that distinguishes lowland from upland forest species. Many flood plain species' life histories show adaptation to recurrent floods. The common trees, for example, produce large quantities of light, easily dispersed seeds well suited for colonizing new beds created by flooding. Once dispersed, the new seeds germinate and grow rapidly.

The predominant tree species in a lowland, flood plain forest are eastern cottonwoods, silver maple, green ash, and boxelder. Before 1950 the American elm was common in this marginal flood plain habitat and in better-drained sites uphill. But then Dutch elm disease fungus found its way into Iowa and brought about the catastrophic demise of one of our truly magnificent trees.

Like several lowland species, the cottonwood may grow to be enormous. Its impressively tall, straight trunk is frequently branchless, except near the top, and its girth can challenge that of any of the eastern trees. The tall uncluttered trees of the lowland forest, open and airy, often penetrated by shafts of sunlight, led some early writers to call them "cathedral forests." In this inspiring setting, cottonwood and poplar leaves rustling incessantly in the prairie breeze provide an audible dimension to the riparian



Bruce Morrison

community and set it apart from the quiet of other woodland communities.

The interior of the cathedral forest is not quite as benign as its name would indicate, however. Knee-high clusters of waxy white berries surrounded by brilliantly beautiful, red, fall foliage identify poison ivy, which must be treated with respect. Further, this highly variable species often takes the form of rugged woody vines, some the size of an arm, that festoon the column-like tree trunks. On the forest floor, the rich carpet of herbaceous plants often contains an abundance of the painful stinging nettle.

Because its trees are scattered and the canopy quite open, it is appropriate to give another kind of Iowa woodland vegetation a name other than "forest." This is the savanna. An open park-like stand of oak trees (most often bur oak or white oak), the savanna characteristically has trees so dispersed that an assemblage of typical prairie species flourishes among them. Something of an ecological mystery, those prairie oaks may have been spared the trauma of prairie fires until they were large enough to tolerate and survive the heat of a burn. Under such circumstances, large, wide-branching, open-grown oaks have co-existed with grassland species for centuries.

Forest Succession

Imagine that we can compress time so that 50 years becomes one day. We will look at three parcels of land: one an abandoned pasture; another a stand of honey locusts, elms, ashes, junipers, and big-tooth aspens; and the third a stand of white oak and sagbark hickory, with ironwood in the understory. What will we see tomorrow?

Changes on the abandoned pasture are dramatic. No longer open, it has become a forest. We find some fairly large trees, a rather dense shrub layer, and some typical forest herbs. Most of the trees are honey locusts, elms, ashes, junipers, and big-tooth aspens — all very much like what we saw yesterday (50 years ago) on the second site. Noting that some of the trees and shrubs — such as honey locust, hawthorne, and gooseberry — are spiny and knowing that the area used to be a pasture, we infer that the two facts are related; grazing tends to favor spiny species. If we are right, we can also deduce that the second site we observed yesterday probably had been a pasture 50 years earlier.

What has happened to the second site we observed yesterday? It still looks like a forest, but substantial changes have

Continued



Bruce Morrison

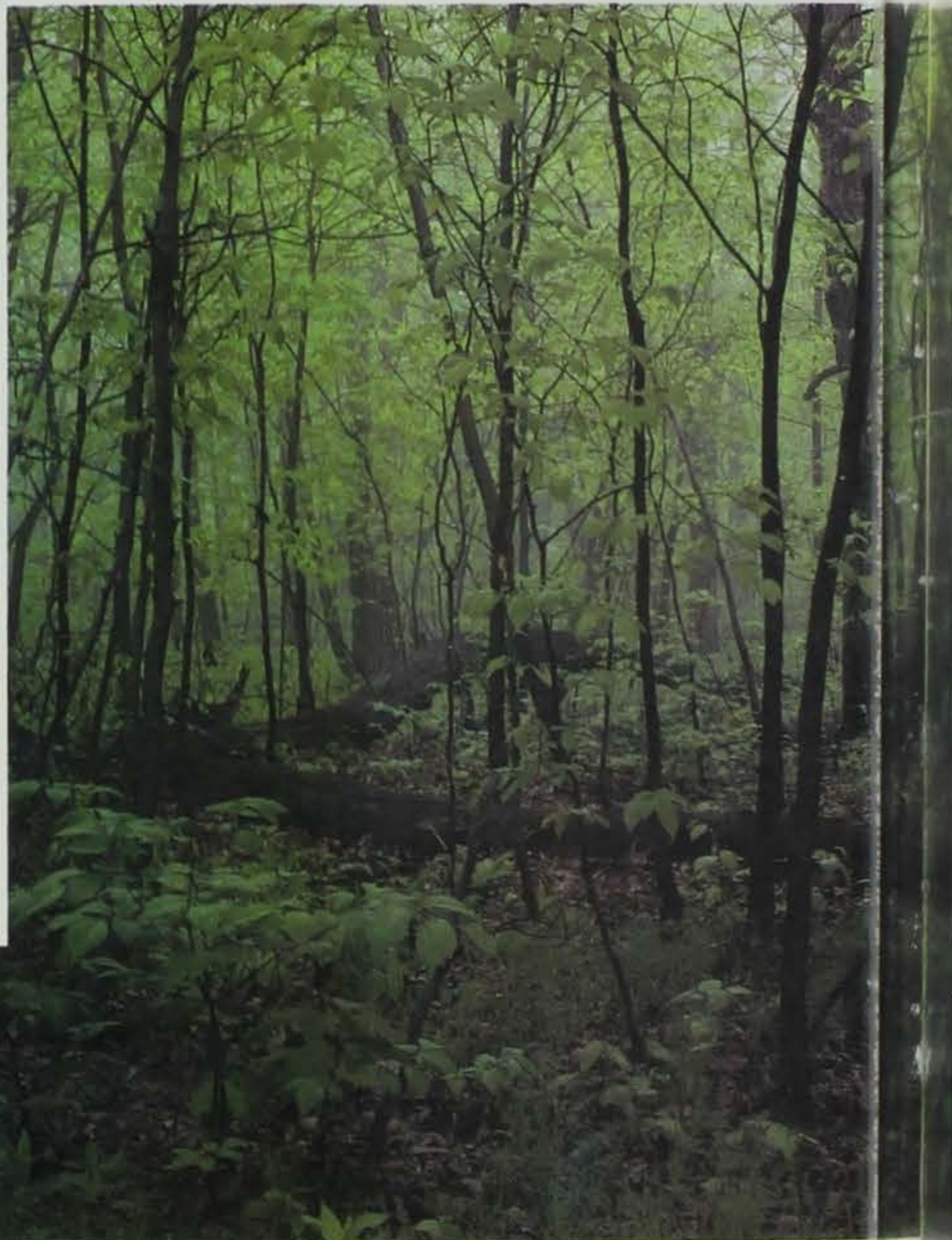


Cathy Meddin

taken place. We see fewer elms, ashes, and locusts. Some hickories and oaks have grown up. The shrub layer appears less dense, and the herb layer seems better developed.

Yesterday's third site appears to have undergone little change. It is still a forest; the tree species are the same, but the trees are larger. Only when we look carefully do we note some subtle increase in the abundance of oak and hickory. We see, also, that some of yesterday's dominant trees no longer are there, and others of the same species have grown in new places. We see some very old trees, partly dead, and some young trees that have not yet reached the canopy. The ground underfoot is soft and spongy with a thick layer of leaf litter. There have been changes, not in the kinds of plants, but in the degree to which they have come into balance with each other and the environment.

Our imaginary compression of 50 years into one day illustrates the process of ecological succession. The rate of change is greatest early in the process; it slows down as the forest approaches its more stable, climax condition. Also, earlier pioneer species are relatively short-lived; many of these have light, easily dispersed seeds, well-suited for colonizing young, disturbed habitats.



Bruce Morrison

The trees of the mature forest are longer-lived, and many have heavier, less readily dispersed seeds, which can provide the extra energy for seedlings to get started beneath an established canopy.

The idea of the process of ecological succession assumes one important thing: that no disturbance occurs to start the process over. The examples in our compression of time actually covered only a portion of the usual time it takes for succession to occur. In many forests, succession proceeds over several hundred years and, within that time, it is highly probable that some disturbance will disrupt the otherwise orderly process. Fire, wind, and the ravages of disease or insect invasion are examples of events which can affect succession. Although destructive in themselves, such events are, in a sense, regenerative. They renew natural processes, and they contribute to the dynamics of forest succession.



Bruce Morrison

Forest Myths

By Bill Ritter

The benefits of Iowa forests are often overlooked. Unfortunately, woodland management plans may be based as much on myth as on true, long-range values. Such is the case when erosion control benefits are lost to grazing. Here are a few related myths:

1) *Iowa's forest lands contribute to soil erosion just like any other land.*

False: A managed forest, one that contributes to the production of forest crops such as lumber or veneer, while facilitating wildlife management, hunting, and forest recreation suffers no soil loss. Roger Koster, Resource Conservationist with the Soil Conservation Service, states, "There is as little as a teaspoon of soil loss from a managed Iowa forest."

2) *Forest pasture provides maximum forage in the production of top quality livestock.*

False: A research study in Wisconsin on forest soils similar to those in Iowa show a forage value for livestock 15 times greater on improved pasture as a grazed woodlot. Grazing also contributes to the production of noxious plants that are poisonous to livestock. Acorns, for example, adversely affect milk production in cattle.

3) *Limited grazing has no adverse effects on forest soils or timber production.*

False: Again quoting Roger Koster, "As much as seven tons of soil may be lost due to limited or light grazing. Soils become compact and the surface vegetation is destroyed permitting greater impact by rainfall, thus more soil loss."

4) *Forest areas do not recover, but continue to decline in quality when livestock is removed.*

False: The area in the photo has since been removed from grazing. After three years new growth (seedling and other ground cover) has taken over to heal the wounds of grazing. Continued grazing on this area would have caused as much as one inch of top soil loss in six years.

If you have a concern about land suitable for additional pasture phone your County Soil Conservationist for assistance. They are authorities on good land use. If your concern is in regard to your farm woodlot, your district forester is the expert. See page 12 for the address and phone number of the district forester nearest you.

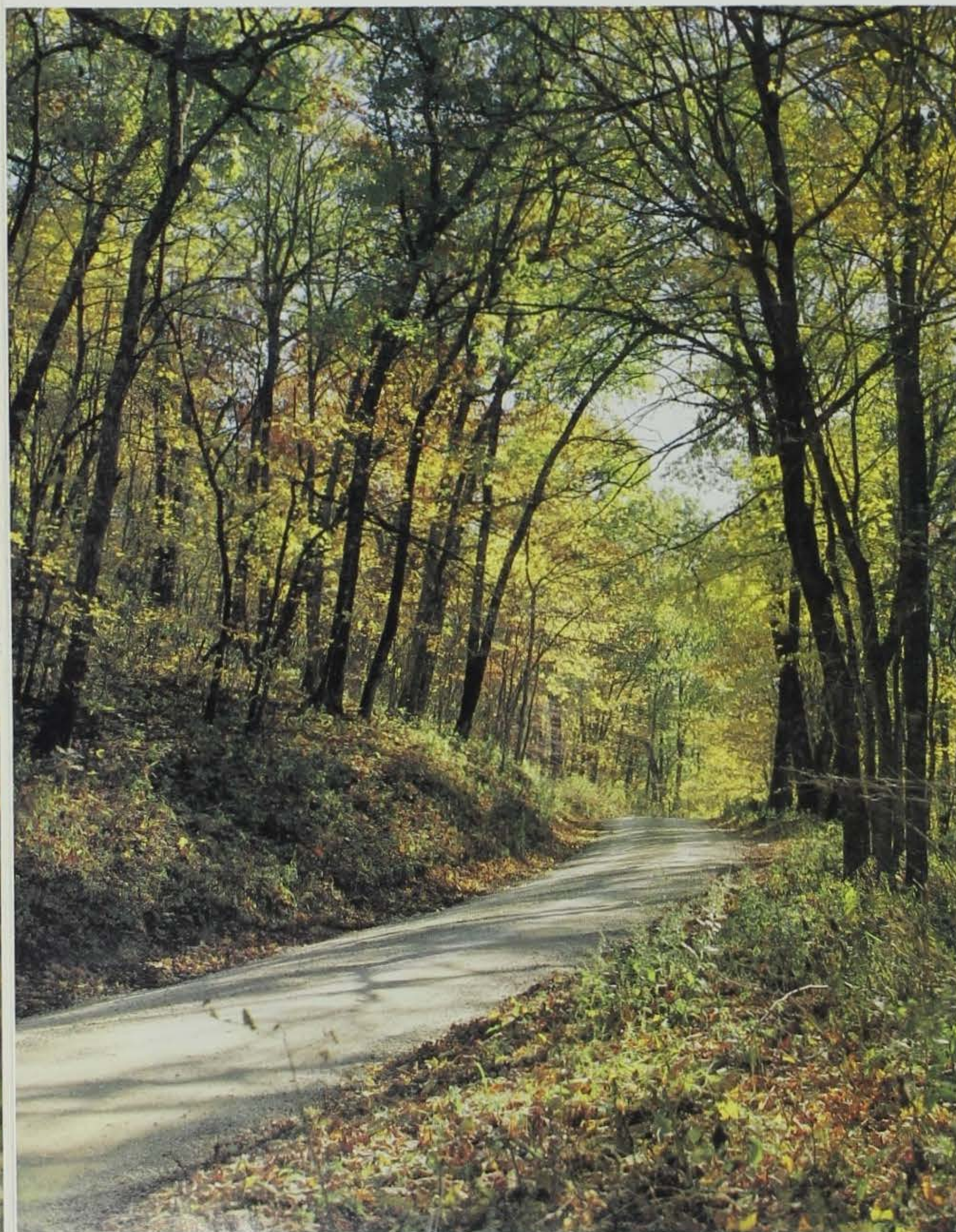
Bill Ritter is the regional forestry supervisor for eastern Iowa. He holds a B.S. degree in forestry from Iowa State University and has been with the commision since 1953.



Robert Hibbs

State Forests

State Forests Showcase Good Timber Management and Provide Unique Recreational Opportunities



Ron Johnson

ENCOMPASSING SOME of the state's largest remaining timber tracts, Iowa's state forests testify to the merits of good land stewardship. These areas are outstanding examples of woodland management at its best, serving people in a wide variety of ways.

The three state forests, Shimek, Stephens and Yellow River, are managed for timber production, resulting in the sale of everything from top-quality lumber to pulpwood. Meanwhile the forests serve as outstanding demonstration areas by hosting forestry field days and other means of informing private woodland owners. Foresters cooperate with universities and government agencies in conducting forestry research projects, in an ongoing effort to increase timber production potentials.

Wildlife deserves and receives a great deal of consideration by forest managers. Small clear cuts, planting strategies and crop plans are often refined to benefit deer, turkeys, songbirds and other wildlife. For this reason, the areas are very popular with hunters, bird watchers and other wildlife enthusiasts.

Fortunately, many of these uses are available from the same area of land. The building of a road to serve logging needs, for example, provides a route for snowmobile or trail riders. Firebreaks, constructed to protect the forest from fire, create openings along the edge of the forest which are of benefit to the wild birds and animals.

Yellow River Forest

The Yellow River State Forest in Allamakee County is the most highly developed of Iowa's forest areas. It has been more heavily used by a greater variety of users than the other areas. Three thousand five hundred acres are devoted primarily to timber growth and harvest. This acreage represents the land to be used for timber production to point the way for private owners to manage their own woodlands. This land has been protected from domestic livestock grazing for at least three decades, which is very uncommon on private woodlands of the state. Already this permits the observation of the potential for crop production and erosion control. In 1972, the first stumpage sale from a managed portion of the forest was made. The trees were sold at public bids for removal by a local logger. It was a competitive sale, brought a good price, and pointed out the economic justification for managing woodlands.

Harvesting from this acreage is done on a continuing basis as set forth in the

forest management plan. The public will be assured of a reasonable income from the land it is holding in trust and can be confident that the area will be protected for the future.

Recreational use includes camping, which permits the user to visit an area unique to the state and to enjoy a "natural" setting. Some camp sites are near trout streams or ponds to permit more enjoyment by the user. A campground is available near the bridge trails. Efforts have been made to accommodate the cross-country skier and snowmobile user as well.

Backpacking has been of more interest in recent years. The state forests offer a unique opportunity to do this because of the size of the areas and the length of the trails. This kind of "pure" use is a natural for the wilder forest areas.

Deer, ruffed grouse and wild turkey are woodland species and the extent of the state forestlands enhances the production of these particular animals and birds. The forest provides stream and pond fishing. Improvement of streams and construction of ponds is an effort to provide this additional recreation opportunity. The Yellow River Forest provides trout fishing from stocked streams. This is an attraction for various combined recreational uses.

Shimek State Forest

All of the area was in private ownership. The timber growing sites had been clear-cut at least once; therefore, present timber is second growth. Many acres of old field sites were scattered among the timber sites. Because of soil mismanagement, these sites had lost their productivity. In 1939, the Civilian Conservation Corps began planting conifers on these old field sites. Approximately 2,000 acres have been planted to various species of conifers.

A schedule of timber stand improvement has been continuing for several years. Pulpwood produced goes to Consolidating Packing Corp., Fort Madison and fuelwood is sold locally. Thinnings from older pine plantations go into treated fence posts for use on state forests and other commission areas, and for sale locally.

Facilities available on the Farmington and Donnellson Units include picnic areas with tables and fireplaces, camping areas with rock pads, tables, fireplaces and latrines, numerous stocked ponds, a nature trail with signs pointing out species of trees, features of natural interest and wildflowers. Water can be obtained at the forest headquarters.

Hunting is offered in season for white-tailed deer, turkey, quail and other upland game. An area is available for group horseback riding on the marked trails. Snowmobiling and cross-country skiing is available in season, on marked trails. Signs in conifer plantations indicate species and management practices.

Stephens State Forest

Originally, the area's intended function was to serve as an example of forest management. The forest was a base of operations for the Civilian Conservation Corps program. Demonstration plantings of hardwoods and conifers were completed. Over the years, the planting has continued.

Since 1972, commercial sales of sawtimber have been made. Ongoing practices improve the forest for lumber and firewood production, wildlife values, and watershed protection.

On the better upland sites, white oak, red oak and hickory usually predominate. The oak-hickory type usually found on the poorer upland sites consists mostly of black oak, bur oak, shingle oak and hickory. The bottomland timber type on the forest includes red and white elm, cottonwood, hackberry, green ash, silver maple and black walnut.

The forest is the home of the white-tailed deer which is abundant on the area and the largest of the fauna. There are also fox and gray squirrels, raccoon, cottontail rabbits, woodchuck, muskrat, skunk, red and gray fox, coyote, beaver, opossum and other small animals.

A variety of birds are present including those native to the woodland and its

borders. Numerous species of songbirds utilize the extremely varied habitat. Game birds include some pheasant, numerous quail and wild turkey. The woodcock is an occasional visitor to the area.

Overnight camping is allowed only at the designated campgrounds on the Lucas and Whitebreast Units and at backpack trail camps in the west portion of Whitebreast. Each of the two units has large ponds four to five acres in size. The commission carries on a stocking program using bluegill, largemouth bass and channel catfish. Backpack and cross-country ski trails have been built on the western portion of Whitebreast. There are designated snowmobile trails on the rest of Whitebreast and on the Lucas Unit as well.

It is perhaps, more important to enlarge, maintain and manage the state forests in Iowa than in some of the more forested states. They reflect a past condition when 15 percent of the state was forested and provide the people the opportunity to see what the woodlands were like in early days. Expansion of the present forest areas is planned and some acquisition has been accomplished.

State forests provide us with a glimpse of the past. These are lands in public trust which are being managed for the good of the most people, whether they seek recreation in the ordinary sense or simply want to experience the forest itself. We may all take pride in these public forests and the various resources they supply. If our children have the opportunity to enjoy them, we will be a small but important part of their future.



Ron Johnson



Wildflower of the Month

Wild Columbine
(*Aquilegia canadensis*)

By Dean M. Roosa

Wild columbine (*Aquilegia canadensis*), a member of the buttercup family, is found throughout Iowa in a variety of habitats. Its favored sites are steep limestone and sandstone wooded cliffs.

The flowers are spectacular — five long scarlet spurs pointing upward and the bright yellow anthers pointing downward, with the flower attached to a long stalk. The flowering time is quite long, beginning in late April and continuing into August. Pollination is accomplished only by those insects or birds with long beaks or tongues such as moths, butterflies or hummingbirds. The leaves are usually divided into three leaflets, each with three lobes.

Late in the summer a five-segmented capsule forms, with each segment tipped by a long beak. Inside the capsule are numerous shiny black seeds. Flower enthusiasts often cultivate this species, or cultivars derived from it.

This, one of our most spectacular wildflowers, is a fairly common member of our woodland flora. If you haven't made its acquaintance, it is patiently awaiting you, probably as close as the nearest state park.